

OBJECT ORIENTED PROGRAMMING WITH JAVA 8– LAB 14

1. Write a program to display the dates 10 days before and after today.

Ans=

Code-

```
import java.text.SimpleDateFormat;
import java.util.Calendar;
import java.util.Date;

public class DateRange
{
    public static void main(String[] args)
    {
        Date d1 = new Date();
        System.out.println(d1);

        Calendar cal1 = Calendar.getInstance();
        cal1.setTime(d1);

        cal1.add(Calendar.DAY_OF_MONTH, -10);
        Date dateBefore = cal1.getTime();

        cal1.setTime(d1);

        cal1.add(Calendar.DAY_OF_MONTH, 10);
        Date dateAfter = cal1.getTime();

        SimpleDateFormat dateFormat = new SimpleDateFormat("yyyy-MM-dd");

        System.out.println("Today: " + dateFormat.format(d1));
        System.out.println("Date 10 days before today: " + dateFormat.format(dateBefore));
        System.out.println("Date 10 days after today: " + dateFormat.format(dateAfter));
    }
}
```

Execution-

```
C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>javac DateRange.java

C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>java DateRange
Sat Oct 28 15:38:42 IST 2023
Today: 2023-10-28
Date 10 days before today: 2023-10-18
Date 10 days after today: 2023-11-07

C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>|
```

2. Write a program to calculate your age in terms of years.

Ans=

Code-

```
import java.util.Calendar;
import java.util.Scanner;

public class CalculateAge
{
    public static void main(String[] args)
    {
        Scanner P = new Scanner(System.in);
        int currentYear = Calendar.getInstance().get(Calendar.YEAR);

        System.out.print("Enter your birth year: ");
        int birthYear = P.nextInt();

        int age = currentYear - birthYear;
        System.out.println("Your age is: " + age + " years");
    }
}
```

Execution-

```
C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>javac CalculateAge.java

C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>java CalculateAge
Enter your birth year: 1998
Your age is: 25 years

C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>|
```

3. Write a program to find the numeric IP address of the following website www.bbc.com.

Ans=

Code-

```
import java.net.InetAddress;
import java.net.UnknownHostException;

public class IPAddressInet
{
    public static void main(String[] args)
    {
        String website = "www.bbc.com";

        try
        {
            InetAddress ipAddress = InetAddress.getByName(website);
            String numericIPAddress = ipAddress.getHostAddress();
            System.out.println("Numeric IP Address of " + website + ": " +
numericIPAddress);
        }
        catch (UnknownHostException e)
        {
            System.err.println("Unable to resolve IP address for " + website);
        }
    }
}
```

Execution-

```
C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>javac IPAddressInet.java

C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>java IPAddressInet
Numeric IP Address of www.bbc.com: 151.101.156.81
```

4. Write a program to create a simple Server in your machine. The server will send a message "Hello Everyone" whenever a client connects to it.

Ans=

Part1,

Code1-

```
import java.net.*;
import java.io.*;

class Server1
{
    public static void main(String ar[]) throws IOException
    {
        Socket cs=new Socket("localhost",1505);           //127.0.0.1
        OutputStream os=cs.getOutputStream();
        PrintWriter p=new PrintWriter(os);

        InputStreamReader ins=new InputStreamReader(System.in);
        BufferedReader br=new BufferedReader(ins);
        String s="";

        System.out.println("Sending");
        do
        {
            s=br.readLine();
            p.println(s);
            p.flush();
        }
        while(!(s.equals("Exit")));
        cs.close();
    }
}
```

Execution1-

```
C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>javac Client1.java

C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>java Client1
Server is ready
Hello Everyone
Exit

C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>|
```

Code2-

```
import java.net.*;
import java.io.*;

class Client1
{
    public static void main(String ar[]) throws IOException
    {
        ServerSocket ss=new ServerSocket(1505);
        System.out.println("Server is ready");

        boolean f=false;
        while(f!=true)
        {
            Socket cs=ss.accept();
            InputStream is=cs.getInputStream();
            InputStreamReader ins=new InputStreamReader(is);
            BufferedReader br=new BufferedReader(ins);

            String s="";
            do
            {
                s=br.readLine();
                System.out.println(s);
            }
            while(!(s.equals("Exit")));
            cs.close();
            f=true;
        }
        ss.close();
    }
}
```

Execution2-

```
C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>javac Client1.java

C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>java Client1
Server is ready
Hello Everyone
Exit

C:\Users\p7pha\OneDrive\Desktop\Cdac DBDA\JAVA>|
```